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Auditing CPR Skills for Campus Recreation Student Employees

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AUDITING CPR SKILLS FOR CAMPUS RECREATION STUDENT EMPLOYEES

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Abstract

CPR training is an important part of any collegiate recreation facility's risk management plan for injury prevention. Because student employees are the first line of defense it is important that they are properly prepared to respond to any emergency situation. Oftentimes classroom training alone is not enough to prepare employees for emergencies. The purpose of this project was to build a training and audit program for CPR in order to build confidence and retain knowledge and skills for student employees in a campus recreation department. A training and audit program was created based on researching programs used by other universities and reviewing the literature about confidence in performing CPR. Participants for the study were employees at a campus recreation center who held the Floor Attendant position. Participants were asked to complete a short quiz at the beginning and end of the test period, which was four months. They also participated in an audit at the beginning and end of the test period. After the second audit the participants were surveyed on their experience with the program and self-reported confidence in performing CPR before and after the program. Overall, the majority of participants improved between the first and second tests. For audits, 80% of participants improved their skills and for the quiz, 70% of participants improved. When surveyed, most students agreed that their confidence in performing CPR in an audit and real life situation was higher after participating in the program. Most also agreed that they were more confident when performing a surprise audit because it was most like a real life situation. These results suggest that overall the training and audit program does increase confidence for student employees in campus recreation and assist in retaining knowledge. However, more research should be done in order to determine the effectiveness of this program for different recreation departments.

Introduction

In the collegiate recreation setting, risk management training is an important part of the student employee's job. Student employees are the first line of defense for the health and safety of patrons, as they are most frequently in direct supervision of their facility (Schneider, Steir, Kampf, Haines, & Gaskins, 2008). Risk management is the practices and policies that facilities put into place to make the facility reasonably safe for users in order to prevent injury (Schneider et al., 2008). In physical activity it is almost impossible to eliminate all of the risks of injury; however it is possible to minimize and manage those risks. Part of this includes training employees in risk management practices and requiring emergency training courses such as Cardiopulmonary Resuscitation (CPR).

According to the American Red Cross CPR/AED for the Professional Rescuer Instructor's Manual, the purpose of the course is to "teach those with a duty to act (professional rescuers and health care providers) the knowledge and skills needed to respond appropriately to breathing and cardiac emergencies. This includes the use of an automated external defibrillator (AED) to care for a victim experiencing cardiac arrest" (CPR/AED Instructor's Manual, 2011). Learning CPR is an important part of risk management. Performing lifesaving skills on the scene of an emergency can be the difference between life and death for a victim.

Although the course teaches a new skill set, often the course alone is not enough to prepare the participant for a serious emergency (CPR Skill Retention, 2009). As with many skills, there are gaps and barriers in learning CPR. As it is administered, the CPR course focuses on pure skill, but does not address how these skills can be remembered. Much of the course is memorization, but critical thinking and decision making is also very important; however these things are often overlooked because of the limited class time.

Without providing the proper tools when learning CPR, it is much more difficult to retain the skills learned. Research shows that in as little as 6 weeks to a few months, participants who do not refresh their skills begin to forget them (American Red Cross Advisory Council, 2009). In addition, these barriers to learning can create a lack of confidence for participants. This means that if they do have to act in an emergency situation, they may be less likely to respond because of a lack of confidence in their abilities as a first responder.

The purpose of this study is to use a training program in order to build confidence and help students retain CPR skills and knowledge over time. The focus for this study is on student employees within a campus recreation department.

The American Red Cross cites bystander CPR as an important link in the cardiac chain of survival (Lifeguard Instructor's Manual, 2012). Without the confidence to perform CPR, a bystander is much less likely to do anything other than call for EMS in an emergency situation (Lifeguard Instructor's Manual, 2012). Reasons cited for lack of confidence include panic during the event, age or physical ability, no training, time lapse from time of training, no experience performing CPR, fear of doing the wrong thing or hurting the person, and fear of contracting an infection (Sipsma, Stubbs & Plorde, 2011, Vaillancourt, Stiell, & Wells, 2008).

In a survey of King County, Washington residents, the top three reasons for not feeling confident were forgotten training (33%), no CPR training (32%) and not feeling comfortable (11%), and only 40% of respondents said they were confident in their ability to perform CPR (Sipsma, Stubbs & Plorde, 2011). Additionally, in a study for airline cabin crew, only two of the 35 participants reported they felt confident in their CPR performance skills (Mahony, Griffiths, Larsen, & Powell, 2007). Montgomery et al. (2012) looked at confidence for nursing students using two methods of training and found that those who practiced skills monthly reported higher

confidence than those who didn't (95% versus 78% respectively). Another study using phone interviews in Central Queensland found that respondents' top concerns included fear of performing CPR wrong (34%) and fear of failing to rescue the victim (35%) (Dwyer, 2008). Cho et al. (2010) found that even after receiving CPR training, 47% of respondents reported fear of legal liability as a reason to not perform CPR.

Knowing the reasons that people do not feel confident to perform CPR, it is then necessary to investigate ways in which confidence can be boosted in an emergency situation. A study of 606 nursing students found that while type of training program does not have a significant influence on confidence, frequency of training does (Montgomery, Kardong-Edgren, Oermann, & Odom-Maryon, 2012). In addition, Magura et al. (2012) found that in delivering different types of electronic refreshers, the type of refresher had no significant effect on confidence, but having a refresher increased confidence versus not having one. Rössler et al. (2013) found that providing a flowchart to participants increased confidence in performing Basic Life Saving (BLS) skills, while Ahn et al. (2011) found that repeated viewing of a reminder video on a mobile phone had a similar effect.

Confidence in performing CPR is interrelated with knowledge and skill retention. Knowledge and skill retention for performing CPR can deteriorate in as little as six weeks to six months after initial training if no retraining is given (Wik, Myklebust, Auestad & Steen, 2002, DeMaria et al., 2010, Mahony, Griffiths, Larsen, & Powell, 2007, Vaillancourt, Stiell, & Wells, 2008). In one study airline cabin crew were tested on CPR skills twelve months after initial training. Only half of participants used the correct sequence for their primary assessment of the patient while the majority had difficulty using a resuscitation mask and using the correct hand position for compressions (Mahony, Griffiths, Larsen, & Powell, 2007).

American Red Cross certifications in CPR must be renewed every two years (Lifeguard Instructor's Manual, 2012). However with the evidence of decline in skill retention, it is clear that some sort of refresher must occur between retraining. Wik, Myklebust, Auestad, and Steen (2002) found that after 6 months, skill retention was higher for the over-trained group, which received short training sessions for 5 days after the initial training. They also acknowledge that some sort of hands-on training after initial training may improve skill retention. The results were similar after 12 months, with the over-trained group having better skill retention than the control group (Wik, Myklebust, Auestad, & Steen, 2005).

A specific issue with skill retention is in giving ventilations to a victim (Donnelly, Assar & Lester, 2000, Woollard et al. 2004, Spooner et al. 2006, Chamberlain et al. 2002). Specifically, participants could not achieve the correct ventilation volume, often over-inflating the lungs (Woollard et al. 2004). Donnelly, Assar and Lester (2000) found that between a training program in 1992 and a training using two different methodologies in 1997, most participants failed to reach the correct ventilation volume. This was the leading cause for ineffective performance in each group (Donnelly, Assar, & Lester, 2000). Similarly, Spooner et al. (2006) found that at initial testing as well as at retention testing 6 weeks later, most participants over-inflated the lungs. Chamberlain et al. (2002) reported that between the two test groups, the success rate for correct ventilation volume was 18% for one and 24% for the other. They also noted that "at least part of the problem lies in inadequate skill acquisition rather than in poor skill retention" (Chamberlain et al., 2002, p. 183).

Part of the problem with skill acquisition lies in the psychomotor aspect of learning CPR. Some studies suggest that learning CPR requires learning at least 50 psychomotor skills (Woollard et al., 2002, Chamberlain et al., 2002). Wik et al. (2002) discuss the use of an

automated voice advisory manikin (VAM) to help with psychomotor skills, but also acknowledge that there are other factors to take into account when learning CPR, such as the primary assessment of the victim. Because of these issues, Chamberlain et al. (2002) suggest that "Training itself has to be changed in some fundamental manner" (p. 185).

Vaillancourt, Stiell, and Wells (2008) conducted a review of literature discussing low bystander CPR rates and claimed that "there is little evidence that regular retraining is necessary for bystander CPR to be effective" (p. 57). On the other hand, most studies agree that there is a need for refresher training (Wik et al, 2002, Montgomery, Kardong-Edgren, Oermann, & Odom-Maryon, 2012, Magura et al., 2012). The American Red Cross Scientific Advisory Council recommends refreshing skills every 6 months (CPR Skill Retention, 2009). Some studies suggest refresher training as frequently as monthly (Montgomery, Kardong-Edgren, Oermann, & Odom-Maryon, 2012), whereas others found no significant impact for multiple refreshers within a one year period (Magura et al., 2012).

Although most researchers agree that some sort of retraining needs to occur during the certification period, there is a lot of variation on the type of retraining that is used. Handley and Handley (1998) discuss the idea of using a simplified 4-step CPR to improve retention over the traditional 8-step method. Although the found that the simplified method did improve skill retention for bystander CPR, they acknowledged that the steps they took out of the process are important in a wide range of scenarios (Handley & Handley, 1998).

Montgomery et al. (2012) compared an online course and an instructor-led course. While they found that type of course made no significant difference, a test group doing retraining once a month using a voice advisory manikin (VAM) showed higher confidence and skill retention (Montgomery et al., 2012). Wik et al. (2002) also experimented using VAM, which is a method

uses a manikin hooked up to a computer to convert quantitative data into qualitative feedback to the participant. They found that using VAM for refresher training is an effective method; however, it only takes into account the psychomotor aspects of CPR (Wik et al., 2002).

DeMaria et al. (2010) took a different approach and added emotional stressors to initial training simulations for medical students. In a second training with no stressors, students who had experienced the stressors in the previous simulation had better skill retention than the control group (DeMaria et al., 2010). They concluded that the results "suggest that there is a level of stress and anxiety that is possibly beneficial for knowledge retention and that does not hurt self-efficacy" (DeMaria et al., 2010, p. 1012).

Other studies focused on different types of refreshers rather than focusing on initial training (Rössler et al, 2013, Ahn et al., 2011, Magura et al., 2012). Rössler et al. (2013) studied whether or not access to a CPR flowchart could boost confidence in performing CPR. They found that participants who were given a flowchart at the beginning of a scenario were more likely to follow CPR guidelines and reported higher confidence; however perceived fear of hurting the victim was not different between the flowchart group and the control group (Rössler et al., 2013).

Magura et al. (2012) used three different types of electronic refreshers in comparison to a mailed brochure. The three electronic refreshers were an online website, a series of emails, and phone text messages. They found that none of the electronic refreshers had a superior outcome in comparison to the brochure, but also noted that many participants did not view the electronic refreshers sent to them (Magura et al., 2012). They also found that those who did view the refreshers reported higher confidence than those who did not view the refreshers (Magura et al., 2012). Ahn et al. (2011) also used an electronic refresher in the form of a video on mobile

phones. They found that repeated viewing of the video led to better skill retention for CPR skills, and also highlighted the importance of the psychomotor aspect of CPR performance (Ahn et al., 2011).

These studies present many good options for increasing confidence and skill retention; however most of them work with lay persons or medical students. The purpose of this study is to test confidence and skill retention of CPR for a refresher program designed specifically for recreation center employees in a collegiate setting.

Method

The purpose of this project was to determine a method to train and retrain student employees in a campus recreation department on emergency response skills for CPR in order to retain knowledge and increase confidence in performing life-saving skills. The research questions for this project were:

1. What have other researchers and campus recreation programs done to improve skill retention?
2. How can students be easily trained and held accountable for knowing emergency response skills?
3. Does our program increase confidence in performing emergency response skills?

In order to answer these questions, the following methodology was created.

Program Creation

The first step in answering the above research questions was to research other programs designed to refresh CPR skills and increase confidence in performing CPR. Five universities in Ohio with similarly sized recreation departments were surveyed about their current method of training student employees for emergency response. The schools surveyed included Kent State

University, Ohio University, Wright State University, University of Toledo, and Miami University. In addition to this survey, a massive literature review was done in order to determine what type of refreshment training works best and the factors that affect confidence in performing CPR. The American Red Cross Scientific Advisory Council recommendations and research were also used, as employees in the department studied were certified through the American Red Cross CPR/AED for the Professional Rescuer course.

Based on the research and recommendations from the literature review and survey of schools, a comprehensive training and audit program was created for all first responder student employees in the recreation department.

Program Design

The basic design of the training and audit program consisted of a combination of reviewing skills learned in initial training and being tested on those skills. The premise of the program was to not test employees before they were trained. Students were required to complete two on-line trainings through the Red Cross Refresher website each semester as well as complete short review activities at monthly staff meetings. These took place in the first two months of the semester. During the second two months employees were given a scenario test based on the skills they had reviewed that semester. A certified American Red Cross CPR Instructor observed employees performing a CPR skill and graded the employees based on a rubric. A sample rubric can be found in the appendix.

Study Design

In order to determine skill retention and confidence, participants of this project were asked to complete a short quiz at the beginning and end of the study period, which was four months. The study period began in December 2014 and ended in April 2015. All questions were

taken directly from the American Red Cross CPR/AED for the Professional Rescuer exam. The questions were specifically related to the CPR and AED skills that participants would be doing in their audit. The questions chosen are the most commonly missed questions on the CPR test.

In addition, participants were surveyed at the end of the study and asked to report on self-perceived confidence level before and after participating in the program. For this survey, participants were asked to share their comfort level with performing CPR in the classroom, audit, and real-life setting before and after the study period, and to give any feedback in order to make the program more effective in building confidence to perform CPR skills in an emergency situation.

Results

The survey of five universities showed that most schools with similar sized departments in Ohio conduct audits for their employees. The breakdown of responses from each school can be found in Table 1. The type of audits done depended on the school and the number of students being audited. Each school had its own philosophy and methodology for audits. For instance, some schools did not believe that providing training opportunities was necessary whereas others did. One school does not currently audit students but is looking into the possibility of audits in the future. Based on this information and the review of literature a program was created that included both training and testing opportunities each semester. The training sessions were split up between online quizzes and in-meeting review.

For the audits done during the study period, nine out of eleven participants improved on the second audit and seven out of eleven improved on the quiz. Overall, 82% of the participants had an improved score on their second audit. On the first audit, the highest score received was a

23 out of 25 points. On the second audit one participant received a perfect score of 25 points. It is important to note that this participant received double training as a floor attendant and lifeguard.

The audit was broken down into five categories: Primary Assessment, Compressions, Ventilations, Cycles of CPR, and AED. Results varied for each of these categories and are shown in Figures 1-5. For all categories, the majority of participants either improved their score or received the same score for the skill. Common mistakes for each category included forgetting to call EMS, hand placement on the chest, incorrect ventilation volume, miscounting compressions or stopping to check pulse between compressions and ventilations, and incorrect pad placement for the AED. Most participants who scored the same in a given category between audits received the highest score possible on that skill.

For the quiz, 64% of the participants had an improved score. Overall a combined 29 questions was missed by the eleven participants on the first quiz. On the second quiz only 18 questions were missed combined for an overall improvement. The breakdown of questions missed is shown in Table 3. The most commonly missed question on both the December quiz and the April quiz was question number four, asking how many ventilations per seconds to give to a child.

When surveyed, most participants agreed that the training and audit program helped build confidence in performing CPR in a real-life situation. While some participants felt more comfortable with a surprise audit, where no notice of testing was given, most of the participants agreed that they were most comfortable when given notice of testing and had time to study. One participant noted the value of surprise audits, as they most reflected a real-life scenario. Some participants also discussed the need for more opportunities for hands-on training.

Table 1. Survey responses about audit training for employees from Ohio universities

School	Number of Employees	In-Service Training?	Training Cycle	Length of Training	Other Training Opportunities	Audits	Audit Cycle
University of Toledo	200	Yes	Monthly	2 hours	WSI, LGI	Yes	Semester
Miami University	200	Yes	Monthly	2-3 hours	None	Yes	2/Semester
Kent State University	200	Yes	Monthly	2-5 Hours (by area)	Oxygen, WSI, LGI, CPO, A.L.i.C.E, WFA	Only Aquatics	7/Semester
Wright State University	130	Yes	3/Year	2-3 Hours	Email questions for CPR, FA, EAP	No	NA
Ohio University (Aquatics)	95	Yes	Semester and Monthly	3-4 Hours	LGI, AFO	Yes	Goal is 2/year

Table 2. Percentage of participants who missed each questions on the CPR quiz in December 2014 and April 2015.

Question Number	December Quiz	April Quiz
1	18%	0%
2	10%	0%
3	18%	27%
4	82%	45%
5	55%	36%
6	18%	0%
7	0%	10%
8	27%	0%
9	0%	10%
10	36%	36%

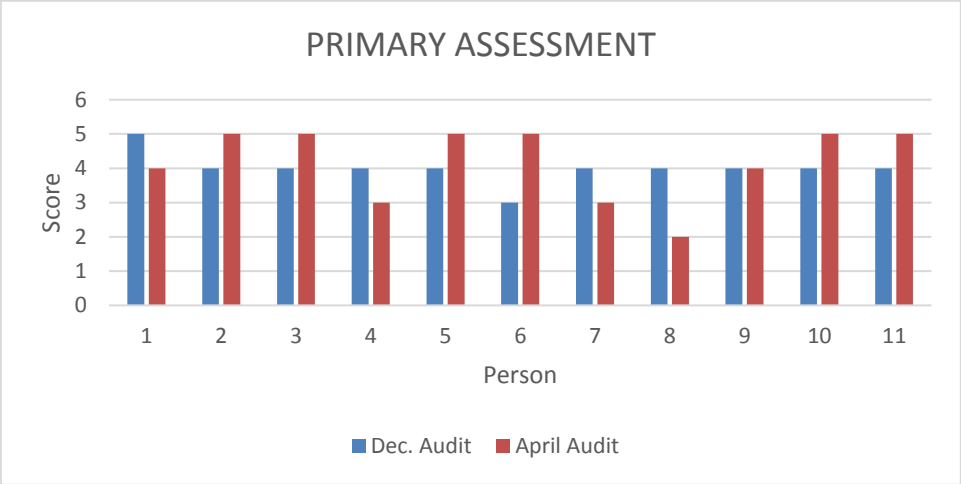

Figure 1. Difference in scores for each participant for the Primary Assessment category

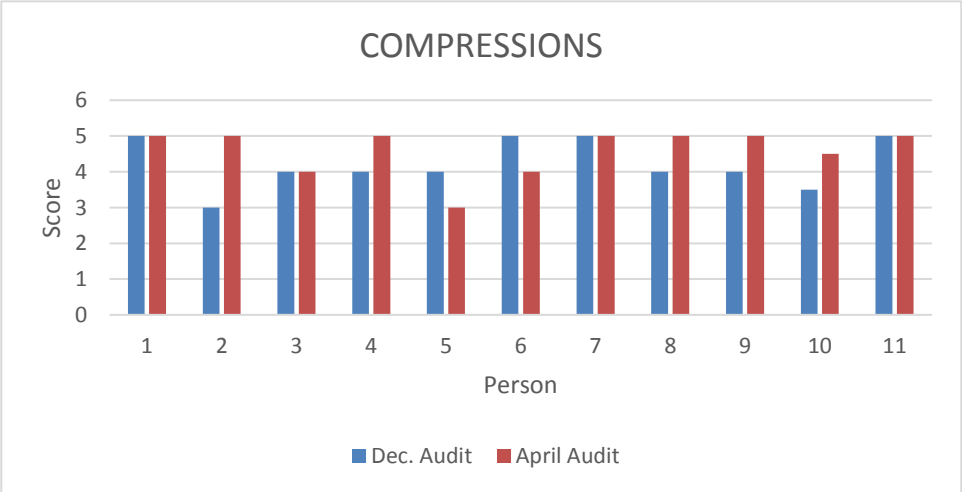

Figure 2. Difference in scores for each participant for the Compressions category

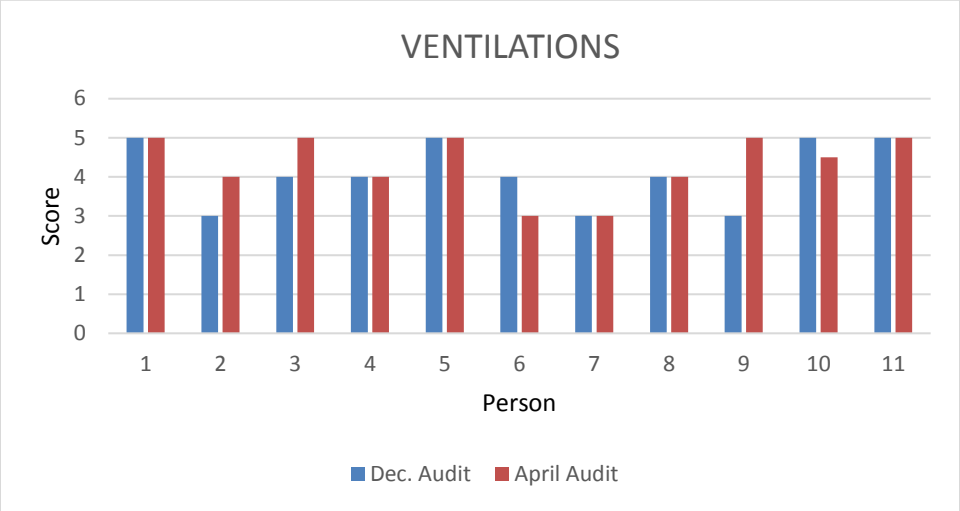

Figure 3. Difference in scores for each participant for the Ventilations category

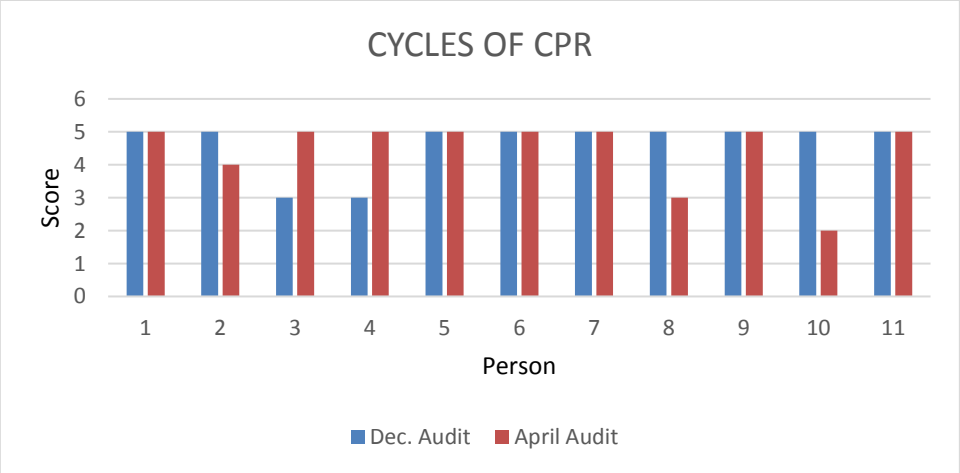

Figure 4. Difference in scores for each participant for the Cycles of CPR category

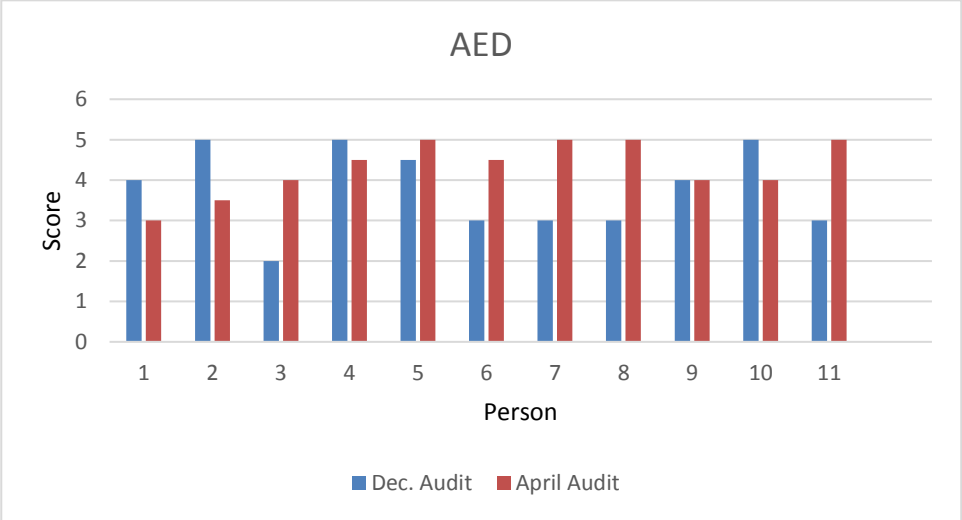

Figure 5. Difference in scores for each participant for the AED category

Discussion

The purpose of this program was not only to improve skill retention for life saving skills, but also to help student employees feel more confident in their ability to help patrons in any emergency situation. It is common for campus recreation departments to conduct CPR audits for employees, but little research has been done to determine the effectiveness of these programs to build confidence and retain skills and knowledge for employees.

Various studies have shown that frequency of training is the most important factor in building confidence and retaining skills (Ahn et al., 2011, Montgomery et al, 2012, Magura et al., 2012, Rössler et al., 2013). Because different types of refreshers can be equally effective, this program took a blended learning approach. Some of the trainings were given online and some were given in staff meetings. The reason for this was time. Student employees have very busy

schedules balancing school, work, and social activities. In adding trainings, it made the most sense to add training into already required work meetings and to give quick online refreshers.

All of the participants agreed that they felt more confident performing CPR in a classroom setting, audit scenario, and real-life situation after participating in the program. Two students failed to receive the minimum passing score for an audit, one in December and one in April. Both students not only improved during a make-up test, but received higher scores than most of the participants who passed the audit on their first try. In the survey, one of these students stated that failing the audit made him more determined to improve and succeed. Building confidence was the most important aspect of this program. Although students know the material, if they are not confident, they may or may not be willing to act in an emergency situation.

Most of the students felt more comfortable with the audit when they knew it was coming and were able to study. A few students said they felt more confident with a surprise audit because they did not have time to overthink and it was more like a real-life situation. DeMaria et al. (2010) also note the value of training as if the situation is real, saying that a certain level of anxiety during a scenario actually adds to learning and can assist with skill retention.

Although all of the students agreed that they were more confident, not all students saw the value of the on-line trainings that were required between audits. One student claimed that they were a waste of time and did not add to the learning and skill retention. Other students noted that because the trainings were short, taking five minutes or less, that they seemed pointless. Despite this, studies do show that short refreshers can aid in confidence for life-saving skills (Magura et al., 2012). The idea is not to make students memorize material, but to keep it in their mind and teach them the critical thinking skills required to handle different situations.

Based upon the improvement rate for the audits and the survey responses indicating higher confidence, the training and audit program employed for this study seems to be effective in building confidence for student employees likely to perform life-saving skills. Although the program seems to be effective, there are elements that can be improved. For instance, the trainings offered in meetings were generally discussion based, with no hands-on practice. Because students are audited using a hands-on approach, it makes sense to add opportunities for skill practice before the test months occur each semester. Chamberlain et al. (2002) explain that learning CPR requires learning at least 50 psychomotor skills. Because motor skills take time and practice to learn effectively, this supports the need to add hands-on training opportunities to the program.

In addition, it is important to note the size of the test group. The group was small, with only eleven participants. This was a small sample size based on the size of the staff in this campus recreation department that is most likely act as first responder in an emergency situation. With a bigger sample size, results may have been very different. More research needs to be done in order to determine whether this program is effective for a larger group. In addition, while the program works for the participants tested, it may have different results in a different facility with different training standards and a different emergency action plan. Overall, this program is effective for the campus recreation department that it was created for, and can possibly be modified for other schools, but a pilot test should be done before implementing the program in order to determine the effectiveness in another setting.

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Appendix A

Informed Consent for Student Employees

Introduction: My name is Rebecca Mabile and I am a graduate student in Leisure and Tourism at Bowling Green State University. I am conducting a project titled "Auditing Recreation Center Employees for CPR and First Aid Skills." You are being asked to participate in this project because of your position with Recreation and Wellness at BGSU.

Purpose: The purpose of this project is to evaluate the effectiveness of an auditing program for student employees to increase skill retention and confidence in life-saving skills such as CPR and First Aid. Although there are no direct benefits for the participant, this research will aid in creating a program that works best for student employees.

Procedure: For this project, participants will be asked to complete a short quiz at the beginning and end of the testing period, which will take place over the course of four months. At the end of the period, participants will also be surveyed on their experience. Your involvement will take minimal time and will be scheduled according to your availability and work schedule.

Voluntary Nature: Your participation is completely voluntary. You are free to withdraw at any time. You may decide to skip questions (or not do a particular task) or discontinue participation at any time without penalty. Deciding to participate or not will not affect your employment or your relationship with Recreation and Wellness.

Confidentiality/Anonymity Protection: Your identity will remain confidential for this project. All data will be stored on a password protected computer and will be accessible only to the researcher.

Contact information: If you have any questions about this project, please feel free to contact me.

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I have been informed of the purposes, procedures, risks and benefits of this study. I have had the opportunity to have all my questions answered and I have been informed that my participation is completely voluntary. I agree to participate in this research.

_____ _____

Participant Signature Date

Appendix B

Recreation and Wellness
Audit Scenario—One Rescuer CPR with AED
2014-2015

Name:
_____Area:_____Date:_____

Scenario:
You are doing an hourly locker room check and you see an adult patron who appears to be unconscious on the ground. No one around you is trained in CPR. There is an AED in the building.

***Audits are a test of the employee's knowledge and skill ability to respond in an emergency. Auditors are not to prompt or hint outside of the speaking points given here.**

Rescuer: Determines the scene is safe, puts on gloves, checks victim for consciousness by tapping
Auditor: "Victim is unresponsive"
Rescuer: Activates the EAP, radios for EMS and an AED, opens the airway, and checks breathing and pulse for no more than 10 seconds
Auditor: "Victim has no breathing, no pulse"

____ Primary Assessment/EAP

- 5 Points: No mistakes in primary assessment, correct order (Scene Safe, PPE, Responsiveness, EMS, Check ABC's), Follows Facility EAP
- 3 Points: Few mistakes in order of primary assessment, may forget one step, activates EAP
- 1 point: Major mistakes in order of primary assessment, forgets multiple steps, or does not do primary assessment

Rescuer: Begins CPR, cycles of 30 compressions to 2 ventilations

____ Compressions

- 5 Points: Gives Effective chest compressions—hand placement, compression depth, chest fully recoils, compressions at a minimum of 100 beats/ min.
- 3 Points: Minor errors in chest compressions—hand placement, rate of compressions, # of compressions, compression depth
- 1 Point: Major errors in hand placement, doesn't press deeply enough, rate of compressions, or does not do compressions

____ Ventilations

- 5 Points: Opens Airway properly, seals mask, breaths last 1 second, breathing is natural and not forced
- 3 Points: Breaths may be too long or too short, doesn't tilt head far enough
- 1 Point: Doesn't open airway, breaths are ineffective, or does not give ventilations

____ Cycles of CPR

- 5 Points: Gives 30 compressions for every 2 ventilations
- 3 Points: Minor counting mistakes
- 1 Point: Major mistakes in counting (gives 15:2 for example), constantly rechecks breathing and pulse, or does not do CPR in cycles

—*After 3-4 Cycles of CPR*—
Auditor: "AED Arrives"
Rescuer: Stops CPR, removes victim's clothing, turns on AED, applies pads to victim's bare chest, tells everyone to stand clear while AED analyzes.
Auditor: "A shock is advised"
Rescuer: advises everyone to stand clear of victim, administers one shock
Auditor: "There are no obvious signs of life"
Rescuer: Continues with 5 cycles of CPR, then reanalyzes with the AED.
Auditor: "A shock is advised"

Rescuer: Tells everyone to stand clear and gives one shock.
Auditor: "There are obvious signs of life"
Rescuer: Monitors victims ABC's and waits for EMS to arrive
____ AED

- 5 Points: Pads on correctly, not over jewelry or medication patch, doesn't touch victim during analysis, continues CPR after shock/no shock given for 5 cycles
- 3 Points: Pads are correct, doesn't touch victim, hesitates after shock/no shock is advised
- 1 Point: Pads are incorrect, touches victim, doesn't continue CPR, or does not use AED

____Total Points

- Passing: 20 points out of 25

Evaluation:
Student Strengths: _____
Student Weaknesses: _____
Auditor Recommendation: _____
_____
_____
I understand that I have been evaluated on my ability to perform lifesaving skills as outlined above. I agree to follow through on any and all recommendations my employer has stated in the Auditor Recommendation area.
Student Employee Signature:_____ Date:_____
Auditor Signature:_____Date:_____

Appendix C

Job Title: _____ Male or Female? (circle one)
Date: _____

CPR Knowledge Quiz
All questions have been taken directly from the American Red Cross CPR/AED for the Professional Rescuer Certification Test.

1. When providing care during an emergency, which of the following should you do first?
    a. Check for responsiveness.
    b. Perform a primary assessment.
    c. Size-up the scene.
    d. Summon more advanced medical personnel.

2. Once you have turned on the automated external defibrillator (AED) you should:
    a. Apply the pads and allow the AED to analyze the heart rhythm.
    b. Check for breathing.
    c. Give abdominal thrusts.
    d. Give chest compressions.

3. When performing a primary assessment, you size-up the scene. Which of the following would you do next?
    a. Check for responsiveness.
    b. Summon more advanced medical personnel.
    c. Open the victim's airway.
    d. Check for breathing and a pulse.

4. You are preparing to give ventilations to a 5-year-old boy using a resuscitation mask. You should give 1 ventilation about every:
    a. 1 second.
    b. 2 seconds.
    c. 3 seconds.
    d. 5 seconds.

5. You are positioned above the child's head and are using a resuscitation mask to give ventilations. After you position the mask, which of the following should you do next?
    a. Blow into the mask.
    b. Lower the mask over the mouth.
    c. Open the airway.
    d. Seal the mask.

6. You are about to apply AED pads to a victim's chest when you notice that the victim has several body piercings with jewelry on his chest. Which of the following should you do?
    a. Apply the pads to the chest, making sure to avoid the jewelry.
    b. Remove the jewelry before applying the pads.

   c. Use one pad, applying it directly over the jewelry.
   d. Wipe the chest, including the jewelry, with alcohol.

7. To ensure effective chest compressions during CPR, which of the following is most appropriate?
   a. Allowing the chest to fully recoil between compressions
   b. Compressing the chest to a shallow depth.
   c. Placing the victim on a soft, flat surface
   d. Positioning the hands at the upper part of the victim's chest.

8. You are providing care to a victim having a heart attack. Which of the following would you do first?
   a. Loosen any tight clothing.
   b. Monitor the victim's appearance.
   c. Provide comfort to the victim.
   d. Summon more advanced medical personnel.

9. You are providing care to a victim who has fallen from a 6-foot ladder. The victim is conscious. Which of the following should you do first?
   a. Ask the victim what happened when he or she fell.
   b. Check the victim's pulse.
   c. Obtain consent from the victim to provide care.
   d. Question the victim about any complaints of pain.

10. When giving abdominal thrusts to an adult, where should you position your fist?
   a. In the center of the breastbone.
   b. In the middle of the abdomen, just above the navel
   c. In the middle of the abdomen, just below the navel
   d. On the ribcage

Appendix D

Recreation and Wellness Student Audit Program Survey

1. What is your work area?
2. How long have you worked for Recreation and Wellness?
3. How long have you been trained in CPR and First Aid?
4. Before the start of the audit program, how often did you review CPR skills?
5. Before the audit program, how comfortable were you performing CPR in:
    a. A classroom setting
    b. An audit scenario
    c. A real-life situation
6. After the audit program, how comfortable were you performing CPR in:
    a. A classroom setting
    b. An audit scenario
    c. A real-life situation
7. Were you more confident/comfortable performing CPR with a scheduled audit or a surprise audit? Why?
8. Do you have any comments or suggestions to help improve this program for student success?
9. Do you have any questions for me?